

What is claimed is

1. A display apparatus for a vehicle comprising:

a disc player which comprises first fixing parts enabling fixation to the ceiling of the vehicle and a display mounting unit, wherein a connection plate of a display unit is coupled to the bottom surface of the display mounting unit in a stacked form, or separated from the bottom surface;

the display unit which comprises the connection plate having second fixing parts enabling the display unit to be coupled with the display mounting unit in a stacked form facing each other, and a screen unit which is installed on the connection plate through a hinge so as to rotate about the hinge, is capable of being folded and unfolded, and displays images according to a video signal input from the disc player; and

a fixing unit which allows the disc player and/or the display unit to be fixed to the ceiling of the vehicle.

2. The display apparatus of claim 1, wherein the first fixing parts are holes formed on the disc player and the second fixing parts are formed on the connection plate and arranged on a straight line with the first fixing parts, and

the fixing unit comprises a bracket which has screw coupling holes and is fixed to the ceiling of the vehicle, and screw members which are fixed to the screw coupling holes through the first and second fixing parts so that the disc player and the connection plate are fixed to the bottom surface of the bracket in a stacked form.

3. The display apparatus of claim 1, wherein the first fixing parts of the disc player are formed as holes so that the disc player is fixed to the ceiling of the vehicle, and coupling holes for fixing the connection plate are further formed on the disc player, and

each of the second fixing parts of the connection plate are arranged on a straight line with one of the coupling holes to form one hole so that the connection plate is fixed to the bottom surface of the disc player, and

the fixing unit comprises first screw members which are fixed to the ceiling of the vehicle through the first fixing parts to fix the disc player to the ceiling of the vehicle, and second screw members which are fixed to the coupling holes through the second fixing parts to fix the connection plate to the disc player.

4. The display apparatus of claim 1, wherein a first coupling unit to fix the connection plate in an interference fit method is formed on the disc player, and a second coupling unit that is detachably coupled to the first coupling unit is formed on the connection plate, and the second fixing parts are holes to fix the connection plate to the ceiling of the vehicle by a fixing unit such as screw members when the disc player is not provided.

5. The display apparatus of claim 4, wherein the first coupling unit comprises a round protrusion formed on the bottom surface of the disc player, a plurality of broadly L-shaped guide grooves formed with predetermined angular intervals on the outer side surface of the round protrusion, a coupling threshold formed at the inside end of each guide groove, and a spring groove formed at the center of the round protrusion, and

the second coupling unit is formed on the top surface of the connection plate and comprises a groove unit which is coupled with the outer circumference surface of the first coupling unit, coupling protrusions protruding inwards from the inside surface of the groove unit, a protrusion unit disposed on the central part of the groove unit, and a spring, one end of which is coupled with the protrusion unit and the other is inserted into the spring groove.

6. The display apparatus of claim 4, wherein the first coupling unit comprises a round protrusion formed on the top surface of the connection plate, a plurality of broadly L-shaped guide grooves formed with predetermined angular intervals on the outer side surface of the round protrusion, a coupling threshold formed at the inside end of each guide groove, and a spring groove formed at the center of the round protrusion, and

the second coupling unit is formed on the bottom surface of the disc player, and comprises a groove unit which is coupled with the outer circumference surface of the first coupling unit, coupling protrusions protruding inwards from the inside surface of the groove unit, a protrusion unit disposed on the central part of the groove unit, and a spring, one end of which is coupled with the protrusion unit and the other is inserted into the spring groove.

7. The display apparatus of claim 1, wherein an aperture through which power supply lines and signal lines are passing is formed on the disc player.

8. A disc player comprising:  
first fixing parts enabling fixation to the ceiling of a vehicle; and  
a display mounting unit, wherein a connection plate of a display unit is coupled to the bottom surface of the display mounting unit in a stacked form, or separated from the bottom surface, and

the disc player is fixed to the ceiling of the vehicle together with a display unit in a stacked form by a fixing unit, the display unit comprising:

the connection plate having second fixing parts enabling the display unit to be coupled with the display mounting unit in a stacked form facing each other; and

a screen unit which is installed on the connection plate through a hinge so as to rotate about the hinge, is capable of being folded and unfolded, and displays images according to a video signal input from the disc player.

9. The disc player of claim 8, wherein on at least one side of the disc player an aperture through which power supply lines and signal lines are passing is formed.

10. The disc player of claim 8, wherein each of the first fixing parts is a hole to be arranged on a straight line with one of the second fixing parts formed as holes on the connection plate, to enable the disc player and the connection

plate to be fixed to the ceiling of the vehicle in a stacked form, by a fixing unit comprising:

a bracket which has screw coupling holes and is fixed to the ceiling of the vehicle; and

5 screw members which are fixed to the screw coupling holes through the first and second fixing parts so that the disc player and the connection plate are fixed to the bottom surface of the bracket in a stacked form.

11. The disc player of claim 8, wherein coupling holes, each of which is to be arranged on a straight line with one of the second fixing parts formed as holes on the connection plate, are formed on the disc player, and

10 the first fixing parts are formed as holes so that the disc player is fixed to the ceiling of the vehicle by using the first screw members.

12. The disc player of claim 8, wherein a first coupling unit which is coupled with the second coupling unit formed on the connection plate of the display unit in an interference fit method is formed on the disc player.

13. The disc player of claim 13, wherein the first coupling unit comprises a round protrusion formed on the bottom surface of the disc player, a plurality of broadly L-shaped guide grooves formed with predetermined angular intervals on the outer side surface of the round protrusion, a coupling threshold formed at the inside end of each guide groove, and a spring groove formed at the center of the round protrusion.

14. A display unit comprising:

a connection plate having second fixing parts enabling the display unit to be coupled with the display mounting unit of a disc player in a stacked form facing each other; and

30 a screen unit which is installed on the connection plate through a hinge so as to rotate about the hinge, is capable of being folded and unfolded, and displays images according to a video signal input from the disc player,

wherein the display unit is fixed together with the disc player, to the ceiling of the vehicle by a fixing unit and the disc player comprises first fixing parts enabling fixation to the ceiling of the vehicle and the display mounting unit, and the connection plate of the display unit is coupled to the bottom surface of the display mounting unit in a stacked form, or separated from the bottom surface.

15. The display unit of claim 14, wherein each of the second fixing parts is a hole to be arranged on a straight line with one of the first fixing parts formed as holes on the disc player, to enable the disc player and the connection plate to be fixed to the ceiling of the vehicle in a stacked form,

by a fixing unit comprising a bracket which has screw coupling holes and is fixed to the ceiling of the vehicle, and screw members which are fixed to the screw coupling holes through the first and second fixing parts so that the disc player and the connection plate are fixed to the bottom surface of the bracket in a stacked form.

16. The display unit of claim 14, wherein each of the second fixing parts is formed on a straight line with one of the first fixing parts formed as holes and one of the coupling holes of the disc player, and the second fixing parts are formed as holes so that the display unit is fixed to the coupling holes of the disc player by using second screw members.

17. The display unit of claim 14, wherein second coupling unit which is coupled with the first coupling unit formed on the disc player in an interference fit method is formed on the connection plate.

18. The display unit of claim 17, wherein the second coupling unit is formed on the top surface of the connection plate and comprises a groove unit which is coupled with the outer circumference surface of the first coupling unit, coupling protrusions protruding inwards from the inside surface of the groove unit, a protrusion unit disposed on the central part of the groove unit, and a spring, one

end of which is coupled with the protrusion unit and the other is inserted into the spring groove.